180545

Initial Site Characterization Report
I-70 and Brighton Boulevard
Central Storage Property
Parcel 49
Denver, Colorado

WALSH Project Number: 3023-010
March 4, 1999

Walsh

Environmental Scientists and Engineers, Inc.

12(0)

Established 1979

Initial Site Characterization Report
I-70 And Brighton Boulevard
Central Storage Property, Parcel 49
Denver, Colorado

March 4, 1999

Prepared for:

Mr. Steve Sherman
Region VI Environmental Services
2000 South Holly Street
Denver, CO 80222

Prepared by:

Vincent P. Secondo, G.I.T.
Staff Geologist

Reviewed by:

Stanley C. Spencer, REM, CGWP
Principal Geoscientist

Submitted by

WALSH ENVIRONMENTAL SCIENTISTS AND ENGINEERS, INC.
4888 Pearl East Circle, Suite 108
Boulder, Colorado 80301
(303) 443-3282

WALSH Project Number: 3023-010

ite Street Address Central Storage, Parcel 49, Tank 2 City Denver

INITIAL SITE CHARACTERIZATION REPORT SUMMARY SHEET

What type of product was released? Check all applicable types, list hazardous substances and other products in the "Other" column.

eaded Gasoline	Unleaded Gasoline	Diesel	Waste Oil	Other: Diesel Range Hydrocarbons
		X		

s there evidence of any released hazardous substance on the site? (If this is an AST release and it xceeds the RCRA level for TCLP benzene, it is a hazardous substance.) Yes ___ No __X__ (check one).
f yes, contact the Colorado Department of Public Health and Environment.
s free product present in the soil or groundwater? Yes ___ No __X__ (check one)

Vhat is the depth to groundwater (in feet)(if known)? 27 to 31 feet bgs

For each category, list the distance from the source to the nearest potential receptor(s) (in feet) - Only list receptors within 1,000 feet of the site.

	Water Supply Well	Subsurface Utility Corridor	Surface Water	Residential Building	Commercial Building	Other _____
tance	NA	NA	NA	NA	750	NA

List the highest concentration of the following constituents found

	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Xylenes (ppb)	BTEX (ppb)	TVPH (ppm)	TEPH (ppm)	TPH (ppm)	Oil & Grease (ppm)	Other (ppm)
ɔil	< 5	< 5	< 5	28	28	29	510	539	NA	NO
ıter	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

. CAP must be submitted within 150 days of the release (unless an extension is granted) if *any* of the ɔllowing conditions exist:

(1) **There is evidence that groundwater wells or surface waters have been or may be affected by the release;**
(2) **Free product is found;**
(3) **There is evidence that contaminated soils may be in contact with groundwater; or**
(4) **There are any indications of a current, perceived, or potential threat to human health.**

)fficial Use Only **Facility ID #**

CORE _____

ɔy: _____

te Street Address Central Storage, Parcel 49. Tank 2 City Denver

INITIAL SITE CHARACTERIZATION REPORT

SITE INFORMATION

e Name Central Storage. Parcel 49. Tank 2	Type of Business on Site: CDOT Right-of Way	
e Address: 4400-4500 Brighton Boulevard		
y: Denver	County: Denver	Zip Code:
one Number: NA	Fax Number: NA	
e Contact Person: Steve Sherman		

OWNER/OPERATOR INFORMATION

me: Colorado Department of Transportation region VI Environmental		
dress: 2000 South Holly Street		
y: Denver	State: CO	Zip Code: 80222
one Number: (303) 757-9935	Fax Number@303) 757-9907	
ntact Person: Steve Sherman		

ENVIRONMENTAL CONSULTANT INFORMATION

me: Walsh Environmental Scientists and Engineers. Inc.		
dress: 4888 Pearl East Circle, Suite 108		
y: Boulder	State: CO	Zip Code: 80301-2475
one Number: (303) 443-3282	Fax Number: (303) 443-0367	
ntact Person: Stan Spencer*		

ate Report Was Completed:3/4/99

NSTRUCTIONS FOR COMPLETING REPORT: Fill out each section completely except Section E (Subsurface ıvestigation) which contains information not *required* for the ISCR. Complete Section E to the extent ıformation is known and currently available. Submit Appendices A, B, and C and other applicable Appendices ith this form. If there is no applicable answer to a question, insert "NA" rather than leaving the space blank. ısert "UNK" if the answer is unknown in Section E. Distances are generally measured in feet (ft). "Below ground ırface" is abbreviated as "bgs."

.imit your responses to the suggested space. If you are using the computer version of this form, the bracketed umber after each question (e.g., [2]) tells the number of suggested lines for each answer. Do not use bold type hen answering, except as requested in the Tables of the Appendices. Insert new rows and delete rows in tables as equired. If you are completing this form by hand and need additional room, please attach additional sheets as bsolutely necessary - with the question repeated and the numbers of the answers matching the numbers on this ɔrm. Contact the Oil Inspection Section if you want this form in an electronic format (303-620-4029). Call 303-21-4164 for a copy of the regulations (commodity # 615-82-44-0899) or the Guidance Document (commodity 615-82-44-0626).

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If there is no contamination at the site requiring remediation, and no leak was reported, do not submit this report. However, if you want to request a No Further Action letter from the OIS, please complete a separate No Further Action Request Report form (attached).

ite Street Address Central Storage, Parcel 49, Tank 2 City Denver

TABLE OF CONTENTS

APPENDICIES

Site Street Address Central Storage, Parcel 49, Tank 2 City Denver

A. SITE DESCRIPTION

1. **Provide information regarding surface topography on Figure 1 of Appendix B.**

2. **Check the site improvements and utilities (surface and subsurface) located at this site. Include all structures, tanks, lines, dispensers, and utilities on Figure 2 of Appendix B. Include depth to utility when readily available.** NA, Depth to groundwater is greater than 25 feet. All subsurface utility inverts are well above the water table.

Improvement or Utility			Depth/Height (ft bgs or aboveground)
Overhead Power Line(s)	NA	NA	NA
Subsurface Power Line(s)	NA	NA	NA
Natural Gas Line(s)	NA	NA	NA
Water Line(s)	NA	NA	NA
Sanitary Sewer Line(s)	NA	NA	NA
Storm Sewer Line(s)	NA	NA	NA
Communication Conduit(s)	NA	NA	NA
Other_____	NA	NA	NA

3. **What is the approximate extent (as a percentage of surface area), of impermeable ground cover (concrete, asphalt, etc.)?** Site under construction (formerly 95% paved) and future use (Denver Fire Station) will be paved.

4. **Provide information regarding uses of adjacent properties on Figure 3 of Appendix B. Indicate on the figure if structures include basements.** Down gradient to northwest and northeast is CDOT I-70 highway right-of-way. Southwest and southeast are commercial/industrial properties.

Site Street Address Central Storage, Parcel 49, Tank 2 City Denver

B. SITE HISTORY

1. Known historical uses of the site (by dates, when possible).

Type of Use and/or Business Name	Begin Date	End Date
CDOT Right-of-Way Central Storage	1998 1985	Present 1998
Wool and Hide Tanning Operations	1940	1985
Chilewich Corporation	1984 & 1980	NA
Colorado-Utah-Idaho	1976 & 1974	NA
Colorado By-Products Company	1953	NA

2. List the history of storage tank operations on the property on Table 1 of Appendix A as shown. Tanks were of unknown use-discovered during property demolition, analyses indicated diesel range hydrocarbons.

3. List dates and describe any releases which have occurred on the property *prior* to this release. Unknown

Date of Suspected Release	Product	Quantity (Gallons)	Source/Cause of Release (Include Tank Number from Table 1 in Appendix A, if applicable)	No Further Action Letter Issued? (Yes/No)*
NA	NA	NA	NA	NA

*** If No, what activities are ongoing to remediate the release(s)?[2]** Tank and contents removed, approximately 15cy contaminated soil excavated and stockpiled.

4. Describe the history of *this* release.

Date of Suspected Release	Product	Quantity	Source/Cause of Release (Include Tank Number from Table 1 in Appendix A, if applicable)
NA	Diesel Fuel	NA	UST/Tank 2

C. INITIAL ABATEMENT/RESPONSE

1. Provide date and result of system and site check required under 7 C.C.R. 1101-14 § 4 - 3.

Date	Type of System Check	Result of System Check
NA	NA	NA

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3. **For all tanks removed or closed in place during this investigation complete the following table. Tank Number information comes from Table 1 of Appendix A.**

Tank Number	Tank Dimensions (height x width) (ft)	Depth to Top of Tank (ft)	Dates of Change in Service	Previous Product Stored
2	5'4" x 18'	2	NA	Diesel range hydrocarbons

4. **How were the contents of the tank(s) disposed?**
Pumped out and disposed of by ThermoFluids, Inc.

5. **Describe the condition of the tank(s) on removal (make particular note of damage to, corrosion of, or holes in, the tank(s)).**
Tank was corroded, but otherwise in good condition; one small hole (1/4 inch diameter) was noted ~ 5 feet from the east end on north side of tank, approximately1 foot above tank bottom.

6. **If the tanks were closed in place:**
   a. **Was cleaning conducted in accordance with the most current regulations?**
   Yes ___ No ___ (check one) NA
   b. **What inert solid material was used to fill the tank(s)?** NA

E. **SUBSURFACE INVESTIGATION (Complete the following section to extent information is currently available and known. If unknown, insert "UNK" in the appropriate space.)**

1. **Sample Screening Procedures and Results. List the results on Table 2 and Figures 4 and 5 of the Appendices.**

   a. **Was an organic vapor meter (OVM) used to screen soils?**
   Yes __X__ No ___ (check one)
   b. **What was the range of OVM readings?** 1 to 7 ppm
   c. **What is the calibration frequency and method for the OVM?**
   Prior to site work and sampling; 100 ppm isobutylene equivalency.

2. **Sampling (use a nationally recognized standard when performing sampling).**

   a. **How many soil samples were submitted for laboratory analysis?** Three
   List the results on Table 3 and Figures 4 and 5 of the Appendices.
   b. **How many water samples were submitted for laboratory analysis?** Zero
   List the results on Table 4 and Figure 6 of the Appendices.

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Date	Type of Site Check (soil, water, vapor)	Contamination Present? (Yes or No)
1998	Soil, Water	Yes
1991	Soil, Water	

2. **List the immediate actions taken to prevent any further release of the regulated substance into the environment.** Tank was pulled on 01/13/99. Contaminated soils were excavated, stockpiled on polyethylene and covered with same.

3.

3. **List the actions taken to mitigate fire, explosion and vapor hazards (if applicable).** NA

4. **Record the type and thickness of the free product observed or measured in wells, boreholes or excavations from the date of discovery to the present.**

Date	Product	Thickness (ft)	Location
NA	NA	NA	NA

5. **Date notification was made to OIS of the presence of free product.[1]** NA

6. **How was free product (generated during initial abatement/response) recovered?[2]** NA

7. **How was free product (generated during initial abatement/response) disposed?[2]** NA

8. **What was the volume of free product disposed?[1]** NA

9. **How were contaminated soils and or water (generated during initial abatement/response) disposed or treated (include the volume of soils and water)?[2]** No water was generated. Contaminated soil was stockpiled pending offsite disposal at DADS

10. **Have all required permits for discharge or disposal been obtained?**
Yes ___ No X (check one)
If no, what actions are being taken to acquire the necessary permits?[2]
Necessary permits to be obtained for disposal are pending.

11. **List any permits obtained.**

Permit Number	Date	Issuing Agency	Type of Permit
NA	NA	NA	NA

D. STORAGE TANK REMOVAL/CLOSED IN PLACE

1. **How many tanks were removed from the ground during this investigation?[1]**
One

2. **How many tanks were closed in place during this investigation?[1]**
None

Site Street Address Central Storage, Parcel 49, Tank 2 City Denver

3. Observations of the Tank Excavation(s).

Excavation Number	Length of Excavation (ft)	Width of Excavation (ft)	Depth of Excavation (ft)	Depth to Groundwater in the Excavation (ft bgs)
2	20	8	7	UNK

If any contaminated soils were excavated, complete the following table:

Excavation Number	Cubic Yards of *Contaminated* Soil Which Were Excavated	Disposition of Contaminated Soils (landfill, treated on site, etc.)
2	~30cy	Stockpiled for offsite disposal

Attach waste disposal manifests in Appendix E. Pending receipt from construction contractor **For each excavation, provide the information requested in the following table. Duplicate this table for additional excavations as necessary.**

Excavation Number 2

Soil Interval (ft bgs)	Soil Type*	Natural Soil Color	Stained Soil Color	Petroleum Odor? (Yes/No)
0 - 0.5	Asphalt	–	–	–
0.5 –7.0	SP SC	brown to yellowish-brown	UNK	YES

* **Unified Soil Classification System or geologic description**

4. Tank Removal Soil and Excavation Water Sampling Procedures.

a. Rationale for selecting sampling locations within the tank excavation

Excavation Number	Sample Number	Depth (ft bgs)	Rationale for Selecting Location
2	Tank 2, West End	10	To confirm presence of petroleum hydrocarbons at west end of excavation
2	Tank 2, Middle	10	To confirm presence of petroleum hydrocarbons at middle region of excavation
2	Tank 2, East end	10	To confirm presence of petroleum hydrocarbons at east end of excavation

b. **Briefly describe excavation soil sampling procedures.**
Samples were collected from the excavation bucket from each location and placed in 4-ounce, Teflon-lined, glass jars, placed in ice filled coolers, delivered to laboratory under chain-of-custody

c. **Briefly describe excavation groundwater sampling procedures.**
NA. Ground water not encountered within tank excavation.

5. **Other Sample Location Descriptions and Rationales (outside of the tank excavation(s), including borings and trenches).**

a. **How many soil borings (including monitoring wells) were completed?**
No soil borings were completed for this investigation. However, a total of six test holes and geoprobe sampling locations were completed on the Parcel 49 property near the vicinity of the UST in April and November 1991, and May and June 1998 by WALSH. The purpose was to attempt to delineate the potential source of chlorinated solvents and petroleum contamination.

b. **How many trenches were completed?** None

c. **Provide the following information for each soil sample taken outside of the tank excavation(s).**

Sample Number	Depth (ft bgs)	Rationale for Selecting Location
TH-19 (WALSH, 1998)	5 – 6.5	Layer of black staining noted at 6 – 6.3 feet bgs. Sample for BTEX/MTBE. TVPH, TEPH.
TH-19 (WALSH, 1998)	30 – 31.5	Soil/Ground Water Interface Zone. Sample for BTEX/MTBE, TVPH, TEPH.
TH-19 (WALSH, 1998)	5 – 31.5	Composite soil sample of borehole profile for SVOCs, VOCs, and Total 8 RCRA Metals
TH-20 (WALSH, 1998)	30 – 30.5	Soil/Ground water Interface Zone. Sample for BTEX/MTBE, TVPH, TEPH
TH-20 (WALSH, 1998)	35 – 36.5	Layer of black staining and faint petroleum hydrocarbon odors noted at 35 – 36.5 feet bgs. Sample for BTEX/MTBE, TVPH, TEPH.
TH-20 (WALSH, 1998)	5 – 36.5	Composite soil sample of borehole profile for SVOCs and Total 8 RCRA Metals
GP-1 (WALSH, 1998)	1.9 – 2.9	Black fill material, possibly coal dust, noted at 1.9 – 2.9 feet bgs. Sample for BTEX/MTBE, TVPH, TEPH, and Total 8 RCRA Metals.
GP-1 (WALSH, 1998)	1.9 - 10	Composite soil sample of borehole profile for BTEX/MTBE, TVPH, TEPH, and Total 8 RCRA Metals.
GP-2 (WALSH, 1998)	3 -10	Composite soil sample for borehole profile. No evident signs of subsurface impacts. Sample for BTEX/MTBE, TVPH, TEPH, and Total 8 RCRA Metals.
GP-3 (WALSH, 1998)	4 -10	Composite soil sample for borehole profile. No evident signs of subsurface impacts. Sample for BTEX/MTBE, TVPH, TEPH, and Total 8 RCRA Metals.
TH-15 (WALSH, 1991)	0 – 1.5 Grab @ 2	Black coating noted, Sample for SVOCs, VOCs, and Metals
TH-16 (WASLH, 1992)	0 –2.5	Staining noted. Sample for SVOCs and Metals.

Include all geologic/lithologic information from borings and/or trenches in Appendix D (as specified in the instructions for Appendix D).

d. **Briefly describe soil sampling procedures.** Test hole soil samples were collected using a CME-55 truck-mounted drill rig equipped with seven-inch hollow stem augers and stainless-steel, 24-inch , split spoon samplers. Geoprobe soil samples were collected with a truck-mounted, direct-push technology sampling rig using 4-foot long, 1.5-inch diameter stainless steel sampling tubes (WALSH, 1998).

6. **Groundwater (outside the tank excavation(s)).**

a. **Was groundwater encountered during site work?** Yes X No ___ (check one)

b. **List the locations where groundwater was encountered in the Groundwater Elevation Table (Table 5) in Appendix A and include ground water elevations on Figure 7 of Appendix B.**

c. **Briefly describe groundwater sampling procedures.** Ground water samples were retrieved with a disposable polypropylene bailer and placed in specified sample containers, in an ice-filled coolers, and delivered to the laboratory under chain-of-custody (WALSH, 1998).

d. **If known, what is the estimated regional groundwater flow compass direction and depth (ft)?[1]** Approximately 27 – 30 feet bgs (WALSH, 1998).

e. **If known, what is the actual groundwater flow compass direction at the site?** Northwest (WALSH, 1998).

f. **If known, what is the ground water gradient at the site? (ft/ft)** Approximately 0.0057 ft/ft (WALSH, 1998)

7. **Sample Handling and Shipping Procedures.**

a. **Provide all information regarding sample handling and shipping as instructed in Appendix C.**

b. **All sampling equipment was decontaminated according to a nationally recognized standard**
Yes __X__ No _____

c. **Decontamination procedures for sampling equipment (complete the following table if there is no QA/QC plan on file at the Oil Inspection Section or if there were variations from the plan).**

Equipment	Decontamination Method
All WALSH Sampling Equipment (split spoons, bailers, water level indicators, gloves etc.)	Soil sampling equipment (split spoons) was decontaminated with an Alconcox wash, followed by a triple rinse of distilled water. Ground water sampling equipment was decontaminated by using discrete, dedicated bailers for each sample location. Water level indicators were washed with Alconox followed by a triple rinse of distilled water. Clean surgical gloves were changed in between sampling locations (soil and ground water) to help prevent cross contamination between sampling locations as well.

F. LOCATIONS AND USES OF GROUNDWATER WELLS WITHIN ½ MILE OF THE SITE. Include this information on Table 6 and Figure 8 of the Appendices.

1. **How many water wells are located within ½ mile of the site?**
Unknown, all structures and residences greater than 500 feet from site. No wells in area believed used for drinking water. Well data ordered from State Engineer and will be forwarded if any drinking water wells discovered within ½ mile

2. **From what source(s) was this data acquired?** Colorado State Engineer

G. LOCATIONS AND USES OF SURFACE WATER WITHIN 1/2 MILE OF THE SITE. List all surface water features (lakes, streams, etc.) and their location with respect to the site. Include this information on Figure 1 of Appendix B (if not included on the U.S.G.S. map).

Surface Water Feature	Location To Site (distance & compass direction)
South Platte River	Approximately ½ mile NW of Parcel 49

Site Street Address Central Storage, Parcel 49, Tank 2 City Denver

H. PRELIMINARY DETERMINATION OF REMEDIAL ACTION CATEGORY (RAC)

1. RAC I

a. **Is groundwater currently being used as a public and/or private drinking water supply?** Yes ___ No ___X (check one)

b. **Is groundwater withdrawn by a public water supply system that is used, or is intended to be used, as drinking water?** Yes ___ No X___ (check one)

c. **Is groundwater used incidentally or intermittently for public drinking water?** Yes ___ No ___X (check one)

d. **Is the groundwater temporarily not being used, but has been used in the past for public drinking water?** Yes ___ No X___ (check one)

e. **Does the groundwater have the potential to be used as a public drinking water supply?** Yes ___ No ___ (check one)

f. **Is the groundwater within 500 ft, or within the zone of influence, of a private drinking water supply well?** Yes ___ No ___ (check one)

2. RAC II

a. **Does the groundwater have the potential for being used as a private drinking water supply?** Yes ___ No ___ (check one)

b. **If no, state why not:** City water is supplied, shallow alluvial groundwater is intermittent in occurrence, subject to numerous sources of industrial contamination and generally of insufficient quantity to supply wells.

3. RAC III

a. **Are there conditions on the site which will, for all practical purposes, eliminate the potential for contaminated soils coming into contact with groundwater?** Yes _X_ No ___ (check one)

b. **If the answer to the above question is yes, what are these conditions?** 1)Source has been removed,2) small residual contaminant mass at low concentrations, 3) relatively insoluble immobile contaminant (diesel/heating oil),4) minimum of 15-20 feet of clayey soils between ground water and residual contaminated soils, 5) site will be paved limiting infiltration and possible leaching.

c.

c. **Are there water quality conditions on this site which would classify all water on this site as "Limited Use and Quality" as specified in the Colorado Basic Standards for Groundwater, 5 C.C.R 1002-8 § (3.11.4)(b)(5)?** Yes ___ No ___ (check one)

d. **If the answer to the above question is yes, what are these conditions?**

4. What RAC are you requesting for cleanup at this site?

The Oil Inspection Section will make the final RAC determination for this site.

Site Street Address Central Storage, Parcel 49, Tank 2 City Denver

I. RECOMMENDATION

Based on the information presented, what do you recommend for this site (check 1 or 2):

1. **__X____ Issue a No Further Action Letter**
2. **_____ Submit a Corrective Action Plan**

Justify a recommendation for No Further Action.

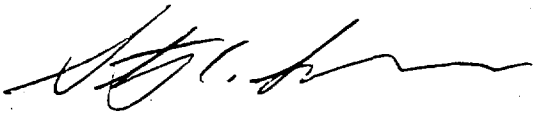
Maximum residual hydrocarbon concentration is very near to RBSLs (524 versus 500) and site conditions indicate minimal potential for either ground water contamination or human exposure by other pathways.

CERTIFICATION

The undersigned certifies, under penalty of law, that the information submitted herein and in the Appendices is true, accurate and complete and no information required under current regulations or requested by the OIS has been omitted. Additionally, all work has been and will continue to be conducted in accordance with accepted industry standards/practice including Colorado statutes, regulations, and the Oil Inspection Section Guidance Documents. I am aware that misrepresentation of any of the above claims may result in penalties under C.R.S. § 8-20.5-107 or 108.

Owner's Signature (required)

Owner's Name and Title

Consultant's Signature 

Consultant's Name, Title, and Company

APPENDIX A

TABLES

Tank Number	Size (Gallons)	Tank Type (AST or UST)	Product	Date Installed	Date Removed	Date Closed in Place	Contamination Detected? (Yes or No)
1	3,000	UST	Fuel Oil	NA	01/13/99	NA	Yes
2	3,000	UST	Diesel Fuel	NA	01/13/99	NA	Yes

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TABLE 2 - SUMMARY OF ORGANIC VAPOR METER READINGS

Date of most recent OVM Calibration 01/13/99

Sample Location I.D.	Date	Sample Depth (ft)	OVM Reading (PPM)	**Sample Designation ***
TH-19	05/11/98	5 – 6.5	0	
		10 – 11.5	0	
		15 – 16.5	0	
		20 – 21.5	0	
		25 – 26.5	0	
		30 – 31.5	0	
TH-20	05/11/98	5 – 6.5	0	
		10 – 11.5	1.4	
		15 – 16.5	23	
		20 – 21.5	0	
		25 – 26.5	6.5	
		30 – 31.5	0	
		35 – 36.5	5	
GP-1	06/01/98	1.9 – 2.9	0	
		2.9 – 5.7	0	
		5.7 – 8	0	
		8 – 10	0	
GP-2	06/01/98	2- 4	0	
		4 – 6	0	
		6 – 8	0	
		8 - 10	0	
GP-3	06/01/98	4 – 5	0	
		5 – 6	0	
		6 – 8	0	
		8 - 10	0	
TH-15	04/01/91	0 – 1.5	15	
		5 – 6.5	10	
		10 – 11.5	10	
		15 – 16.5	8	

.ddress Central Storage, Parcel 49, Tank 2 City Denver

ntinued)	04/01/91	20 – 21.5	8	
		25 – 26.5	13	
		30 – 31.5	12	
		40 – 41.5	8	
	11/26/91	2 – 3.5	0	
		5 – 6.5	0	
		10 – 11.5	0	
		15 – 16.5	0	
		20 –21.5	0	
		25 – 26.5	0	
		30 – 31.5	0	

ɔcations are from WALSH investigations on Parcel 49 near the vicinity of UST #2 in 1998 and

Sample Number	Collection Date	Sample Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	BTEX (ppb)	MTBE (ppb)	TVPH (ppm)	TEPH (ppm)	TPH (ppm)	Oil & Grease (ppm)	Other analytes?* (Yes or No)
Tank 2 West End	01/13/99	10	< 5	< 5	< 5	28	28	NA	14	**510**	**524**	NA	NO
Tank 2 Middle	01/13/99	10	< 5	< 5	< 5	< 5	< 20	NA	< 0.5	< 3.0	< 3.5	NA	NO
Tank 2 East End	01/13/99	10	< 5	< 5	< 5	< 5	< 20	NA	2.9	81	83.9	NA	NO

Identify any sample results which exceed RAC I cleanup standards (e.g.,100 ppm for TPH) by presenting those results in bold typeface.
N/D = Less than the stated laboratory detection limit
N/A = Not Analyzed

- If "yes", list other analytes detected in a separate table

** For analytical results of soil samples obtained from TH-19, TH-20, GP-1, 2, 3, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Final Site Investigation, I-70 Phase II and III Construction, 44th Street to Brighton Boulevard, City and County of Denver, Colorado.* CDOT Project No. IR-IM(CX)070-4(145), July 23, 1998.

** For analytical results of soil samples obtained from TH-15, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Preliminary Site Investigation of Properties for the Modification of Interstate 70, Washington Street to Brighton Boulevard.* CDOT Project No. IR-070-4(145), July 31, 1991.

** For analytical results of soil samples obtained from TH-16, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Addendum, Preliminary Site Investigation for the Modification of Interstate 70, Washington Street to Brighton Boulevard.* CDOT Project No. IR-070-4(145), May 15, 1992.

Ground water was not encountered during tank removal activities. Samples not collected.

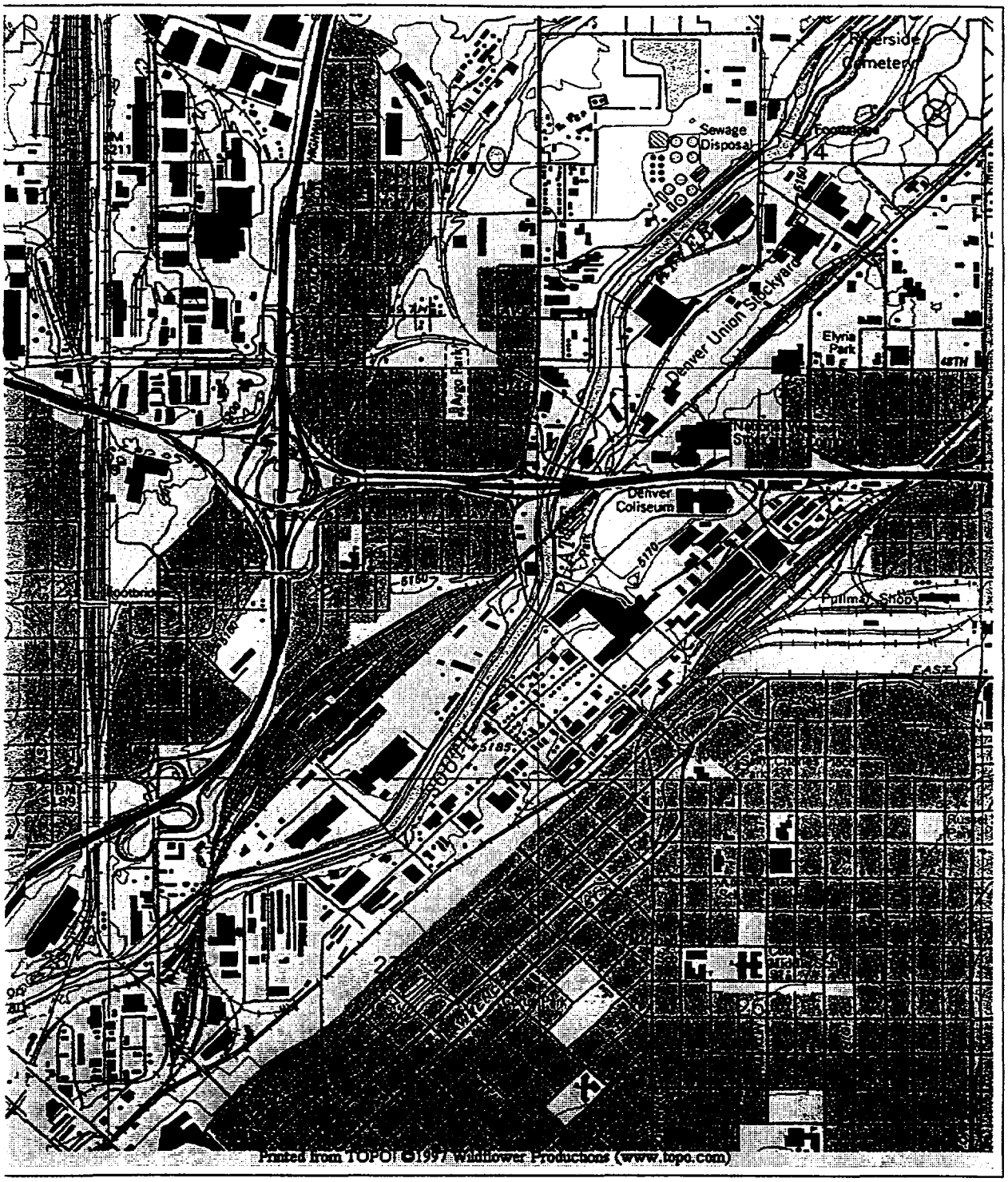
** ** For analytical results of ground water samples obtained from TH-19, and TH-20, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Final Site Investigation, I-70 Phase II and III Construction, 44th Street to Brighton Boulevard, City and County of Denver, Colorado.* CDOT Project No. IR-IM(CX)070-4(145), July 23, 1998.

** For analytical results of ground water samples obtained from TH-15, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Preliminary Site Investigation of Properties for the Modification of Interstate 70, Washington Street to Brighton Boulevard.* CDOT Project No. IR-070-4(145), July 31, 1991.

** For analytical results of ground water samples obtained from TH-16, please refer to the previous report: Walsh Environmental Scientists and Engineers, *Addendum, Preliminary Site Investigation for the Modification of Interstate 70, Washington Street to Brighton Boulevard.* CDOT Project No. IR-070-4(145), May 15, 1992.

APPENDIX B

FIGURES



Approximate Map Scale: 1: 24,000

Map Source: USGS Commerce Quadrangle
Colorado, 7.5 Min. Series (topographic) 1959
Revised 1980

Site

N

Walsh
Environmental Scientists and Engineers, Inc.

Site Vicinity Topographical Map

Job 3023-010	Date 1/99	Figure 1

cdot.CDR 11/16/98 PEB

APPENDIX C

LABORATORY RESULTS

Petroleum Hydrocarbons Report

3023-010, Tank 2, West End

ORIGINAL

Method:	8021B/mod. 8015/mod. 8100	Analyst:	DPD
Sample ID:	99-1-15-7	Volatiles Date Analyzed:	01/14/99
x:	Soil	Date Extracted:	01/18/99
Number:	58527	Extractables Date Analyzed:	01/19/99
Sampled:	01/13/99	Units:	µg/Kg

Volatiles Dilution Factor: 1

Extractables Dilution Factor: 1

te	CAS Number	Concentration	Reporting Limits	Qualifier
ene	71-43-2		5	U
ne	108-88-3		5	U
benzene	100-41-4		5	U
Xylenes	1330-20-7	**28**	5	
Volatile Hydrocarbons	NA	**14,000**	500	
Extractable Hydrocarbons	NA	**510,000**	3000	

Surrogate Compound	%Recovery
(SS) a,a,a-Trifluorotoluene	116 %
(SS) Fluorobenzene	107 %
(SS) o-Terphenyl	106 %

Qualifiers:

"U" Indicates compound was searched for and not detected at or above the method detection limit.
"B" Indicates compound was found in the method blank and has been corrected.
"J" Indicates compound was identified out of the method working limits and should be considered an estimated value.
" * " Indicates surrogate is outside of recovery limits due to matrix effect.

Analyst: Dongping Du

Walsh

mental Scientists and Engineers, Inc.

Petroleum Hydrocarbons Report

3023-010, Tank 2, Middle

ORIGINAL

Method:	8021B/mod. 8015/mod. 8100	Analyst:	DPD
Sample ID:	99-1-15-6	Volatiles Date Analyzed:	01/14/99
C:	Soil	Date Extracted:	01/18/99
Number:	58526	Extractables Date Analyzed:	01/19/99
Sampled:	01/13/99	Units:	µg/Kg

Volatiles Dilution Factor: 1

Extractables Dilution Factor: 1

rte	CAS Number	Concentration	Reporting Limits	Qualifier
ene	71-43-2		5	U
ne	108-88-3		5	U
benzene	100-41-4		5	U
Xylenes	1330-20-7		5	U
Volatile Hydrocarbons	NA		500	U
Extractable Hydrocarbons	NA		3000	U

Surrogate Compound	%Recovery
(SS) a,a,a-Trifluorotoluene	103 %
(SS) Fluorobenzene	87 %
(SS) o-Terphenyl	108 %

Qualifiers:

"U" Indicates compound was searched for and not detected at or above the method detection limit.
"B" Indicates compound was found in the method blank and has been corrected.
"J" Indicates compound was identified out of the method working limits and should be considered an estimated value.
" * " Indicates surrogate is outside of recovery limits due to matrix effect.

Analyst: Dongping Qiu

Walsh

mental Scientists and Engineers, Inc.

Petroleum Hydrocarbons Report

3023-010, Tank 2,East End

ORIGINAL

Method:	8021B/mod. 8015/mod. 8100	Analyst:	DPD
Sample ID:	99-1-15-5	Volatiles Date Analyzed:	01/14/99
ix:	Soil	Date Extracted:	01/18/99
Number:	58525	Extractables Date Analyzed:	01/18/99
Sampled:	01/13/99	Units:	**µg/Kg**

Volatiles Dilution Factor: 1

Extractables Dilution Factor: 1

lyte	CAS Number	Concentration	Reporting Limits	Qualifier
zene	71-43-2		5	U
ene	108-88-3		5	U
lbenzene	100-41-4		5	U
l Xylenes	1330-20-7		5	U
l Volatile Hydrocarbons	NA	**2,900**	500	
l Extractable Hydrocarbons	NA	**81,000**	3000	

Surrogate Compound	%Recovery
(SS) a,a,a-Trifluorotoluene	101 %
(SS) Fluorobenzene	87 %
(SS) o-Terphenyl	91 %

Qualifiers:

"U" Indicates compound was searched for and not detected at or above the method detection limit.
"B" Indicates compound was found in the method blank and has been corrected.
"J" Indicates compound was identified out of the method working limits and should be considered an estimated value.
" * " Indicates surrogate is outside of recovery limits due to matrix effect.

Analyst: Dongming Du

Walsh

onmental Scientists and Engineers, Inc.

Proj. No. 3023-010 Project Name Brighton Blvd/I-70 CDOT

SAMPLERS: (Signature)

Sta No	Date	Time	Soil		Station Location	Sample Tag No.	BTEX/MTBE	TEH	TVH	8260							No. of Containers	Remarks
S. Platte Pike, Tank 1	01/13/99	1310	X		Parcel 49	58524	X	X	X								1	Very glassy
Tank 1 West End		1405				58528	X	X	X								1	
Tank 1 Middle		1407				58529	X	X	X								1	
Tank 1 Middle		1407				58531	No Field			X							1	
Tank 1 East End		1413				58530	X	X	X								1	
Tank 2 East End		1420				58525	X	X	X								1	
Tank 2 Middle		1421				58526	X	X	X								1	
Tank 2 West End		1422				58527	X	X	X								1	

Relinquished by: (Sign.)	Date/Time	Received by: (Sign.)	Relinquished by: (Sign.)	Date/Time	Received by: (Sign.)
	1/13/99 1605				
Relinquished by: (Sign.)	Date/Time	Received by: (Sign.)	Relinquished by: (Sign.)	Date/Time	Received by: (Sign.)
Relinquished by: (Sign.)	Date/Time	Received for Laboratory by: (Sign.)	Date/Time	Remarks:	
			01/13/99 1605		

Distribution: Original accompanies shipment. WALSH

OIC

View Full Record Report for DocId 480545
Report Date: 01-26-2001

DocId: 480545
Doc Date: 03-04-1999
Sites: CO0002259588, VASQUEZ BOULEVARD/INTERSTATE 70
Oper. Units: OU01 , OU 01 OFF-SMELTER FACILITY SOILS VASQUEZ BOULEVARD/INTERSTATE 70
OU02 , OU 02 ON-SMELTER FACILITY VASQUEZ BOULEVARD/INTERSTATE 70
Title/Subj: INITIAL SITE CHARACTERIZATION REPORT I-70 & BRIGHTON BLVD CENTRAL STORAGE PROPERTY PARCEL 49 DENVER, COLORADO 12(o)
Authors: WALSH ENVIRONMENTAL SCIENTISTS AND ENGINEERS, INC.
Addressees:
References: PRP DENVER
Folders:
Comments:
Pgs: 0
Phase/Acts: RS REMEDIAL STUDIES/REMEDY SEL
Doc Types: EXT CORRESPONDENCE - EXTERNAL
PRP CORRESPONDENCE - PRP
NOTCE NOTICE LETTER & 104(e) RELATED
Financial ID:
Box_ID:
I_Pages:
Tracking #s:
Access: REL RELEASABLE/PUBLIC
ContractID:
WADO #:
Roll/Frame#:
Case #:
Media:
Location:
Status:
Rel Doc Id: Rel_Type: Rel_Type Description:
Create Date: 01-25-2001
Create Oper: LFARN
Edit Date:
Edit Oper:
Admin Cols:

Arid	Ardate	Description	OuID	Sitename
9161	01-24-2001	VB/I-70 DENVER'S 104E RESPONSE		VASQUEZ BOULEVARD/INT

420545

Superfund Document Coding Sheet

SITE NAME (Required): VASQUEZ BOULEVARD AND I-70
CERCLIS NUMBER: C00002259588 **SSID:** *(Add the two digit Site Spill ID #)* 08 - 9R

OPERABLE UNIT *(Add the applicable operable unit(s))*: 01 and 02

PHASE ACTIVITY (Required): *(Check one or more boxes)*

- ☐ Brownfields
- ☐ Emergency Response/ Time Critical Removals
- ☐ HRS
- ☐ Natural Resource Damages
- ☐ Non-Time Critical Removal
- ☐ Post Construction
- ☐ Post Work Cost Recovery Action
- ☐ Remedial Design/ Remedial Action
- ☒ Remedial Studies/ Remedy Selection
- ☐ Removal Site Evaluation
- ☐ Site Assessment

DOCUMENT TYPE (Required): *(Check one or more boxes)*

- ☐ Access Related
- ☐ CERCLIS Documentation
- ☐ Comfort Letters
- ☐ Community Relations
- ☐ Construction Related
- ☒ Correspondence External
- ☐ Correspondence Internal
- ☒ Correspondence PRP
- ☐ Data & Related Documents
- ☐ Decision Documents
- ☐ Design Related
- ☐ Enforcement
- ☐ Financial & Contract Documents
- ☐ HRS Package
- ☐ IAGs, MOAs, SSCs & CAs
- ☐ Map (Photo, Video, Tape, etc)
- ☒ Notice Letter & 104(e) Related
- ☐ Orders, Settlements
- ☐ Plans (Workplans, QAPPs, CRP, HASP)
- ☐ Reports
- ☐ Risk Assessment - Ecological
- ☐ Risk Assessment - Human Health

REFERENCE: *(List PRPs Document Pertains to Below)*

- ☒ DENVER
- ☐
- ☐
- ☐
- ☐
- ☐

ACCESS CODE (Required): *(Check Applicable Boxes)*

- ☐ Attorney Work Product
- ☐ Attorney-Client Comm.
- ☐ CBI Claimed
- ☐ CBI Determined
- ☐ Deliberative Process
- ☐ OGC OK
- ☐ Enforcement Confidential
- ☐ Privacy
- ☒ **Releasable** (Public)

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☒ 104(e) response	☐ Work Performed	☐	☐	☐
☐ from Denver	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

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SIGNATURE BOX (Required)

Program Lead: Max Herman DATE: 4/27/00

Attorney: Matt Cohn DATE: 11/15/00

Revised March 1, 2000, *previous versions are obsolete.*